REMARKS

The application includes claims 1-35 prior to entering this amendment.

The examiner rejects claims 1-7, 9-19, and 21-35 under 35 U.S.C. § 102(b) as being anticipated by Chen et al. (U.S. Patent 6,367,933).

The examiner rejects claims 8 and 20 under 35 U.S.C. § 103(a) as being unpatentable over Chen in view of Kawashima et al. (U.S. Patent 6,592,228).

The applicants amend no claims.

The application remains with claims 1-35 after entering this amendment.

The applicants add no new matter and request reconsideration.

Interview Summary

The undersigned and examiner Cruz conducted a telephonic interview on Tuesday, August 1, 2006. During the interview, the undersigned explained the difference between Chen and the present claims. The undersigned and examiner Cruz reached no agreement on allowability.

Claim Rejections Under § 102

The examiner rejects claims 1-7, 9-19, and 21-35 as old over Chen.

Both the present application and Chen disclose a method and apparatus for preventing keystone distortion. Chen generates "from an original image, a deformed or modified image that may be projected without the keystone distortion that would result from directly projecting the original image." Column 6, lines 6-9. "In one embodiment of the invention an original image may be modified for projection without keystone distortion by deforming the original image according to the projection system's tilt and pan angles and resizing the image as necessary to fit the LCD panel 110. Column 8, lines 5-9. Chen describes that in state 1904, "the digitizer deforms the image to offset keystone distortion that would occur due to a projection system angle (e.g., tilt angle and/or pan angle). Illustratively, this process is performed on a line-by-line basis in accordance with prestored parameters *derived from the angle(s) of the projection system*, which describes how each line must be altered to counteract the effect of keystone distortion."

Column 13, lines 57-64. Nowhere does Chen disclose how it determines the projection angles themselves that are used to access the prestored parameters.

The present application also discloses a method and apparatus for preventing keystone distortion. Unlike Chen, however, the present application relies on a user selecting or otherwise indicating a plurality of parameters, e.g., image corners and center, of the desired (undistorted) image within a projected (distorted) image using a graphical user interface. A driver interprets the user's selected parameters to calculate horizontal and vertical rotation angles stored in scalar registers, in turn, used by a controller to predistort the image such that when projected, the predistorted image exhibits little to no keystone distortion. No such active selection of image parameters by a user, using a graphical user interface, is disclosed by Chen. The examiner identifies Chen's interface

Claim 1 recites *selecting a plurality of corners within an original image projected as a distorted image on a projection surface using a graphical user interface.* Claim 14 recites *means for graphically selecting a plurality of corners within an original image as projected distorted on a projection surface.* Claim 26 recites *a user interface to allow a user to graphically identify a plurality of corners of an original image as projected as a distorted image on a surface.*

The examiner alleges Chen discloses the recited selecting with its disclosure of the corners of screen image 140 and at column 2, lines 48-49. The screen image 140 shown in Chen's figure 1C indeed has four corners, but there is no indication in Chen that these corners are in any way selected by a user using a graphical user interface much less selected to inform the recited predistorting. The examiner responds to this argument by citing a passage that describes the way in which Chen deforms the image on a line-by-line, pixel-by-pixel, or other basis. The applicant fails to see how Chen deforming its image on a line-by-line or other basis discloses a user purposefully *selecting a plurality of corners within an original image projected as a distorted image on a projection surface using a graphical user interface* as recited.

The examiner further alleges that "Chen discloses that a portion of the image may be selected as a result of the deforming an original image." What Chen discloses in the cited passage is that "several parameters are calculated to identify the usable area of the display device, the number of lines in an image to be rendered and projected, the number of positions (e.g., pixels) in each line, etc. Then, ***for each selected or usable portion (e.g., pixel) of the display device***, a corresponding portion of the original image (e.g., a pixel or set of pixels) is

identified by applying one or more geometrical or mathematical relationships." The undersigned fails to see how a selected or usable portion of the *display device*, discloses the recited *selecting of a plurality of corners within an original image projected as a distorted image on a projection surface using a graphical user interface.*

Finally, the examiner is under the mistaken belief that a graphical user interface is disclosed by Chen's CPU and memory interfaces 202 and 204, coupled to a processor that operates in accordance with a sequence of instructions. A graphical user interface is by its nature graphical, or more precisely "a type of environment that represents programs, files, and options by means of icons, menus, and dialog boxes on the screen. The user can select and activate these options by pointing and clicking with a mouse or, often, with the keyboard. A particular item (such as a scroll bar) works the same way to the user in all applications, because the graphical user interface provides standard software routines to handle these elements and report the user's actions (such as a mouse click on a particular icon or at a particular location in text, or a key press); applications call these routines with specific parameters rather than attempting to reproduce them from scratch."[1]

Chen's CPU interface 202 interfaces with a CPU while the memory interface 204 interfaces with the CPU interface 202, digitizer 206, and generator 208 on the basis of instructions. Nothing in Chen suggests that either of the CPU or memory interfaces 202 or 204 allow a user to graphically select corners of an image as recited. As best understood by the undersigned, the CPU interface 202 "communicates with the processor to coordinate memory access" and the memory interface 204 accesses the memory and "ensures that all memory requests are rapidly... serviced so that the image processing and transformation is not delayed." Column 9, lines 11-12 and 34-37. The interfaces 202 and 204, either alone or together, do not remotely disclose a graphical user interface as recited by claims, even when the claims are given their broadest interpretation.

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Claim Rejections Under § 103

The examiner rejects claim 8 as obvious over Chen in view of Kawashima. The applicants traverse the rejections for the reasons that follow.

The examiner alleges that Chen discloses the salient features recited except where the selecting comprises using an on screen display means to do the selecting. The examiner proposes that Kawashima provides this missing link. The applicants disagree with the examiner that Chen discloses the invention as we develop in detail above.

Conclusion

The applicants request reconsideration and allowance of all remaining claims. The applicants encourage the examiner to telephone the undersigned at (503) 222-3613 if it appears that an interview would be helpful in advancing the case.

Respectfully submitted,

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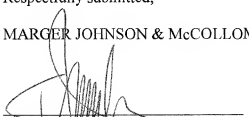

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